

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: n4so@juno.com (charles k brown)
Subject: [18902] 38 Special Contacts
Message-ID: <19970504.075204.4263.14.n4so@juno.com>

Looking for 38 Special contacts after 1400Z off and on today on 10.116+-.
Best to make a schedule.

Ken Brown, N4SO
QTH nr Mobile, AL
qrp-1 #622
n4so@juno.com

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: MSU1972@aol.com
Subject: [18908] 38s questions, new kit builder help!!!
Message-ID: <970504112434_146952450@emout04.mail.aol.com>

My 38s is working great as built by stock, especially the receive section which is loud after jumping R24.

A few questions for my ham friends:

- 1)I got parts at Radio Shack and could not find an 18k resistor for the 5 watt mod...I picked up a 22k...can I use this or should I choose a lower resister.
- 2)They also did not have a 330pf for Mikes mods...they do have about 100pf higher or lower...which one should I choose?
- 3)I only get one peak from tc1...since the receive is working so well should I remove a turn from t1 to try to get 2 peaks or just leave it alone...
- 3)I keep reading references to "thump" mine sounds like a loud click...is this the same noise everyone is referring to???

Thanks for all your help...I'm hooked on qrp, David, KB80CC

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: Paul Erickson <paul1@wizard.ucs.sfu.ca>
Subject: [18918] Canadians/Damark don't bother
Message-ID: <9705041728.AA23349@wizard.ucs.sfu.ca>

Apologies to those south of the 49th. I just spent an hour on hold waiting to order a catalogue to find out that they won't ship to Canada. Their system won't take our postal codes. Just wanted to save others from wasting time.

cheers, Paul
VE7CQK
email: paul1@wizard.ucs.sfu.ca

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: George Dobbs <g3rjv@gqrp.demon.co.uk>
Subject: [18882] Coming shortly to a Dayton near you...
Message-ID: <04+RkIAah2azEwgX@gqrp.demon.co.uk>

Some interesting items from the UK:

The
Is this ... The World's Smallest Transmitter ... Kit
is ready and will be on sale.

Older than the Pixie (we are talking about 15 years!)
..... better than the Micro-80 (What isn't!)
..... the grandfather of all the simple transceivers
The GM30XX FOXX Transceiver will soon be available in Kit Form
The FOXX-2 will appear in the next SPRAT
and if the PCBs arrive in time,
pre-release kits will be available at Dayton.

You can't afford a Spectrum Analyser?
The Spectrum Wavemeter (A SPRAT project)
offers a very inexpensive alternative
Designer Tony Fishpool, G4WIF, will be at Dayton
and so will kits for the Spectrum Wavemeter.

Copies of
Projects for the Radio Amateur by Drew Diamond, VK3XU
have already been shipped for FIDIM and the G QRP Booth.

and Dick and George
will have some European Morse Keys again.

Plus a range of G QRP Club items and lots of membership application
forms.

.... and we even consider the US Dollar as legal currency.

Hope to see you there.

George Dobbs G3RJV
The G QRP Club
g3rjv@gqrp.demon.co.uk

It is vain to do with more
what can be done with less
William of Occum (1290-1350)

St. Aidan's Vicarage, 498 Manchester Road, Rochdale, Lancs. OL11 3HE. U.K.

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Genevieve A. Winkler" <GDWinkler@CompuServe.COM>
Subject: [18894] Coming Soon- Thump Thoughts Five
Message-ID: <199705040041_MC2-15E4-61AE@compuserve.com>

COMING SOON - THUMP THOUGHTS FIVE
THE FINAL CHAPTER

Hi Gang,

I have it solved.

For the impatient among you, here is a synopsis of
the solution. Move the audio switch to between U5A
and U5B. Then change R7 to 470k. Yes, almost one
half Megohm.

There are a few details...

(Sorry folks, been sick, and it slowed me down a
might, or I might have gotten this down last week.)

72, Dan Winkler N7IVR Seattle WA

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Marshall Emm" <mgemm@mtechnologies.com>
Subject: [18921] CQC Winter QSO Party Results
Message-ID: <199705041928.NAA13720@lynx.csn.net>

Here are the PRELIMINARY results of the CQC
Winter QSO Party, as published in Low Down.

Please note that SOME LOGS HAVE NOT BEEN
LISTED.

We are aware of at least two logs which appear
to have been lost. Our first step is to determine
the extent of the problem, then we will decide if

you will need to send a replacement log.

If you submitted a log but your callsign does not appear here, please let us know ASAP! Final results will be released as soon as we have this situation resolved, and they will be printed in the next Low Down.

Multiple Band Class

Call	CQC #	Pts.	SPC	Names	Score
KF7MD	31	410	49	19	382710
K10J		378	46	17	296596
WOLK	350	272	33	18	162568
N4ROA		268	29	16	125352
WOHEP	1	238	26	14	87632
NFOZ/m7	8	218	21	18	83404
AAOZR	9	172	23	15	59340
AL7FS	284	164	24	14	56104
AE0Q	174	154	17	14	37652
N0IJK	412	144	17	12	29376
K50I	121	188	12	9	21304
K5ZTY	178	100	16	12	20200
NR5A		108	20	9	19440
N2VPK		96	17	11	18952
KB0SZG	192	73	12	13	12388
KG0TH	112	124	10	9	12160
KA10X	278	86	12	9	10288
W0JF		72	8	8	4608
NOKE	184	54	9	9	4374
WA1QVM		48	8	6	3304

Single Band Class

K3WWP	295	54	8	8	3456
AA1PB		46	9	6	2484
K8LEN	261	44	4	8	2408
W9CUN		40	7	5	2400
KB0WQT	345	16	2	3	1096
WA2BQI		10	2	1	20

73

Marshall Emm

AA0XI/VK5FN

aa0xi@mtechnologies.com

<http://www.mtechnologies.com/mthome>

<http://www.mtechnologies.com/mthome>

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "J. Skalski" <jskalski@acsu.buffalo.edu>
Subject: [18922] DAYTON QRP LIST
Message-ID: <Pine.GS0.3.95.970504151226.15144A-100000@orichalc.acsu.buffalo.edu>

This is a list of the qrp vendors and hams who will have flea market spaces at Dayton. I will compile a list and post it here until Dayton. This list may be of use to hams that won't attend...they can use it as a shopping list.

I will be using the categories listed in the ARRL handbook under Component data /ARRL Parts supplier list.(with slight modifications)

- A- General Suppliers
- B-Inductor Cores
- C-Circuit Board etching supplies
- D-RF Power transistors
- E-Microwave components
- F-Antenna Hardware
- G-Dials and Knobs
- H-Variable capacitors
- I-Transformers
- J-IF filters
- K-Project Cases
- L-Project Kits
- M-Surplus Parts
- N-Vacuum Tubes
- O-Mechanical Teletype Supplies
- P-Integrated Circuits
- Q-Equipment Manuals
- R-Test Equipment
- S-RIGS-NEW
- T-Etched Circuit Boards
- U-Wire
- V-Crystals
- W-KEYS
- X-ANTENNAS-NEW
- Y-RIGS ETC-USED
- Z-OTHER -HAM RELATED

Individuals and Businesses that have responded:

Alan Fryer N3BJ

1 space #2942

V,Y

N3BJ@aol.com

Jim Skalski N2G0
spaces #326,327,328
G,I,K,L,M,T,U,W,Z
jskalski@acsu.buffalo.edu

KANGA US
Table 514
L,V
Kanga@bright.net

NorCal ARP Club
Space 242 (inside Hara Arena)
L
Ki6ds@telis.org

VIBROPLEX
Booth 303
W
W4oa@vibroplex.com

A post will follow describing how to add your name or group and location to this list. We still need other kit suppliers and key manufacturers.

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "J. Skalski" <jskalski@acsu.buffalo.edu>
Subject: [18923] DAYTON QRP vendor list update.
Message-ID: <Pine.GS0.3.95.970504152505.15144B-100000@orichalc.acsu.buffalo.edu>

If you are planning to come to DAYTON and will be having a display or flea market space....let us know!

Here is how:

I will be taking a list of the qrp vendors and hams who will have flea market spaces at Dayton. I will compile a list and post it here the week before Dayton. This list may be of use to hams that won't attend...they can use it as a shopping list.

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- I-Transformers
- J-IF filters
- K-Project Cases
- L-Project Kits
- M-Surplus Parts
- N-Vacuum Tubes
- O-Mechanical Teletype Supplies
- P-Integrated Circuits
- Q-Equipment Manuals
- R-Test Equipment
- S-RIGS-NEW
- T-Etched Circuit Boards
- U-Wire
- V-Crystals
- W-KEYS
- X-ANTENNAS-NEW
- Y-RIGS ETC-USED
- Z-OTHER -HAM RELATED

Please use only the above codes, no extra verbiage in the following format.address to me titled "AD DAYTON" using the format below.
(do not send this message back to me :-)

BUSINESS NAME/or NAME and CALLSIGN (one please)
SPACE(S) #/LOCATION
ITEM(S) CODES (letter code only)
EMAIL address (one please)

73,

Jim N2GO
The Buffalo QRP CONNECTION
ARCI #9013 QRP-L #381
Life member ARRL
jskalski@acsu.Buffalo.EDU

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: ah231@detroit.freenet.org (Bernard F. Gaffney Jr.)
Subject: [18916] FDIM
Message-ID: <199705041713.NAA13672@detroit.freenet.org>

Back on the list again.

I assume FDIM is still on? Just want to check, as I'm registered and all set to go.

72/73 de N8PVZ

--

We are QRP		Bernard F. Gaffney, Jr. N8PVZ
Resistance is futile		MI-QRP# M-1152
You will be assimilated		ah231@detroit.freenet.org

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997

From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: [18933] FS: JPS ANC-4
Message-ID: <19970504212143.AAA23633@LOCALNAME>

JPS Electronics model ANC-4 Noise canceller unit. Like new.
Complete with wall transformer and instruction manual. Only a
few months old. It works on a single line noise source and really
good on 'computer hash'! The problem I have the power company will
have to solve! \$100 plus shipping.

Sandy W5TVW
ebjr@worldnet.att.net

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: NO OTHER THAN <mitch96@idt.net>
Subject: [18885] gel cell batteries
Message-ID: <336BF462.6F29@mail.idt.net>

good evening to all,
mitch here.
i have been reading thru qrp-l about gel cell batteries where do you get
small gel cell's??? i have seen marine gel cell's but they are
monsters!! is that what everyone talking about??
thanks,
n4jbw
qrp-l #1094,fist #3206 et al

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Kevin F. Glynn" <kfglynn@prodigy.net>
Subject: [18899] How Efficient is a Hellically Wound Vertical?
Message-ID: <199705041304.JAA17486@mail1y-int.prodigy.net>

Hi gang,

I read in W1FB's Ant Book that a helically wound vertical can be efficient
- if large enough wire is used and caution is used when winding. I also
have some articles from CQ that discuss helicals and a great formula to
determine turns per inch.

Now, how efficient is it really? I'm planning on using 14 ga wire and it's
for quick and easy setup when a tree is not handy while working portable.
I'd like to get raised radials, and maybe keep the helix to about 10' in
length. A ham in a local club keeps telling me... you're an amateur,

experiment. I'm going to take that advice but was curious to what others feel.

Tnx for info

72 Kevin N2T0

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Mike Rhodes" <weightdn@mail.bright.net>
Subject: [18913] LDG AT-11 Mods & Comments?? (Again!!)
Message-ID: <199705041654.MAA26147@mail.bright.net>

Well gang, here is another of those 'I'll never need that stuff' requests. I have decided to take the plunge and build an LDG AT-11 auto-tuner and would appreciate anyone who has archived the mods and comments about its construction, etc., forwarding them to me. Please respond direct so as to not trouble all the other list members who were smart enough to save the stuff the first time.

Thanks.

72/73 de Mike / W8DN
weightdn@bright.net
Celina, OH
EN70rm

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: ROYGREGSON@aol.com
Subject: [18897] Lost Msg's
Message-ID: <970504041828_1255194920@emout03.mail.aol.com>

Hi Gang....Want to thank all those who responded with AOL help ! I'll keep all the "Cures" to the problem handy for the next time it happens. It is encouraging to hear that others have had the same problem ... it's not me the computer illiterate again !

Fortunately, it is an intermittent problem, may go for months before it does it again. Have you ever noticed that these things only seem to happen when something important was on the index of msg's ! Is there any other time ?

Thanks again 72's/73's Roy

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997

From: Bob White <bobwhitewo3b@geocities.com>
Subject: [18935] Milliwatting the QTTF
Message-ID: <336D0FD3.328@geocities.com>

Milliwatters,

I would like to include your Milliwatting experiences from last months QRP To The Field in my next QQ Milliwatting column.

If you participated in QTTF in the under 1 watt category, please send me email about your experiences, scores, and equipment used.

Thanks to all,
Bob White W03B
QQ Milliwatt Editor
bobwhitewo3b@geocities.com
[HTTP://www.geocities.com/~bobwhitewo3b](http://www.geocities.com/~bobwhitewo3b)

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Ronald J. Polityka" <wb3aal@talon.net>
Subject: [18910] NA Contest Program & QRP contest help.
Message-ID: <199705041539.LAA15848@pelican.talon.net>

Hello fellow QRPers. I am new to the QRP-L and it looks great.
I have a problem with my NA Contest Program Version 9.27. I am doing something wrong and I can't figure it out. I keep getting 35 pts. for each contact. If you use the NA program how do you have your contest template set up. Any help will be appreciated.

73 & Good Dxing
Ron de WB3AAL

wb3aal@talon.net

QRP # 5318	OWL's Radio Club
G-QRP # 3031	PA QSO Party 1996 Small Club Award
QRP-L # 1099	
10-10 # 13173	

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: Bob Roach <KE4QOK@worldnet.att.net>
Subject: [18919] Need info for news letter

Message-ID: <19970504173316.AAA126@LOCALNAME>

Hello everyone,

I am in the process of writing an article for our club news letter on internet resources that are available to hams who have E-Mail access only. The kind of things that I am interested in are sites like the QRZ database that can be queried via E-Mail. Any addresses with short explanations would be greatly appreciated. Reply direct and I will post a copy of my article so every one can have the info. I am not interested in reflectors this month even though they are an invaluable resource I think that they deserve a seperate article.

Thanks

(o o)

-----o00_()_00o-----

73 es TNX

KE4QOK Real radios glow in the dark.

Bob Power is no substitute for skill.

If it stayed up last winter, it was too small.

136 Hermitage Rd.

Newport News, Va. 23606 KE4QOK@worldnet.att.net

(757)930-0348

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997

From: Brian Chesire <BCChesire@worldnet.att.net>

Subject: [18886] Need Info on Grid Dip Meter

Message-ID: <336BF2BC.D50@worldnet.att.net>

Hi Group;

I obtained a real jewel this morning. A James Millen, model 90651, grid dip meter. It's the old vacuum tube version. Works great and all by itself qualifies as QRP xmtr, not too stable however.

I'd like to find a copy of the manual and schematics for it, and if anyone has one of the older Millen tube dip meters, the physical dimensions for the 140 to 300 Mhz coil. That was the only thing missing.

I'd be more than happy to cover copying costs etc.

Thanks

Brian WA5PP0, Tucson AZ

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997

From: mderisio@sprynet.com
Subject: [18907] New Qrper, has questions
Message-ID: <199705041517.IAA07491@m9.sprynet.com>

Hello:

I am new in the exciting field of qrp and would like to ask some questions to the experienced amateurs:

- a) which band do you recommend to start working with?
- b) is there any particular qrp kit that you recommend?

Thank you

73's de Marcelo N2YHQ

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: mderisio@sprynet.com
Subject: [18909] New Qrper, has questions
Message-ID: <199705041529.IAA12398@m9.sprynet.com>

Hello:

I am new in the exciting field of qrp and would like to ask some questions to the experienced amateurs:

- a) which band do you recommend to start working with?
- b) is there any particular qrp kit that you recommend?

Thank you

73's de Marcelo N2YHQ

<---- End Forwarded Message ---->

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: tim_hynde@idecc.com
Subject: [18929] No subject given
Message-ID: <9705048627.AA862777730@idec_mail.idecc.com>

Hola Amigos:

Someone give me a sanity check... While fooling around with the 38 S, I decided to do the 6.8uh mod so I added a 2.2 in series. Ok, seems to work but I cant see a whole lot of difference. I've seen some designs for "Super VX0's" where you put 2 xtals in parallel and your able to stretch them a bit more well I decided to try it.

I put two of the 22.118's in parallel (I bought duplicate parts to build one from scratch) and whoa... I hear amateur calls at one end of the pot and WWV at the other!! There are enough signals along the way to tell that I'm not jumping, it seems to be tuning, albeit very fast, from just under 10.000 MHz to at least 10.1, I have no frequency measuring device at the moment but unless there are countless hams operating out of band I'd say I'm getting 100KHz of coverage.

Can someone tell me what's happening, is this really covering 100KHz or am I getting fooled.

Tim, ka8ddz

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: w7rfm@juno.com (John E Hirsch)
Subject: [18928] on the air on 40M
Message-ID: <19970504.132306.4518.0.w7rfm@juno.com>

It is about 2030 4 May97 and I am looking for my first HW-8 contact.
Will be on the air untill 0000z than on net

de w7rfm

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: ccashion@spdmail.spd.dsccc.com (Charles Cashion)
Subject: [18915] oxymorons
Message-ID: <199705041705.MAA03273@spd.dsccc.com>

Gang:

What do the following three terms have in common:

1. military intelligence
2. common secret
3. maintenance free lead acid batteries

I will give you a clue: It starts with the letter "O".
72s,

Charles Cashion, W5ISZ, QRP-L#76, Norcal#1320, etc...

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Genevieve A. Winkler" <GDWinkler@compuserve.com>
Subject: [18930] POSSIBLY Incomplete Message: Thump Thoughts Part Five (long)
Message-ID: <199705041701_MC2-15E6-5737@compuserve.com>

THUMP THOUGHTS - PART FIVE
THE FINAL CHAPTER

I have shown that "Mr. T" comes from numerous places in the NC 38S circuit. I had hoped that I might be able to erradicate each source separately, but that now seems impossible. The best we can hope for is to hide "Mr. T". I will later describe some of the lab measurements I made in arriving at this solution. But to appease the impatient, I will proceed right to...

THE FIX

CREDIT goes to Glen Leinweber for most of this mod. I was headed that way, but he got there first.

There are four parts to the fix. Change the switching time constant at C12/R7. Move the switch to between U5-A and B. Move and adjust the sidetone injection. And finally, quiet other thump causes.

WARNING

Read these mods through, with schematic and board in hand, before you do them. Be sure you understand what is being done. A little more thinking ahead than I have done may be in order!

CHANGING THE TIME CONSTANT

Part one is easy. We need to lengthen the delay before the U2 audio switch closes, allowing reception after transmitting. The stock time constant is 0.33ms ($0.1\mu\text{f} \times 3.3\text{k}$). We need to increase it so that the 4066 doesn't switch for 5 to 10ms, long enough for the transients to die down. You can change either C7 or R7, or both. Changing R7 to 270k will do the trick, for a time constant of 27ms. The control gate of the CD4066 (U2) has an extremely high impedance, so 270k will

be fine. The 4066 switch makes its own transient, so just lengthening the time constant will still leave us with a thump. On the breadboard, I measure a 1.15volt (pk-pk) transient at the earphones, which borders on the audibly painful.

Note that the new "centerfold" schematic omits C12 and C13. I'm not sure C13/R8/D5 are needed once you have this mod done, but C12 is certainly necessary!

MOVING THE SWITCH

Part two is a little tougher. You will need a tantalum capacitor, about 4.7uf. The audio switch needs to be moved to BETWEEN U5-A and B. U5-A gives us most of the system gain, about 47 db (voltage gain of >50). U5-B gives us selectivity and a voltage gain of about 16 (24db). By moving the switch to a point later in the receiver gain, the 4066 switching thump will be minimized.

First we need to feed audio to U5-A directly. On the bottom of the board is a 3/8" trace connecting the hot end of C14 to pin 11 of U2. Cut this trace. If you haven't already changed C14 to 0.1uf, and moved its ground connection to the ground near C38, do so now. You will have to cut the wide (1/8") ground trace on the top of the board, running to the right from C14, underneath C15, then up under D7, to pin 10 of U4. I would cut it close to C14, if possible. Changing C14 is one of those "other" thump suppression mods. Then, on the bottom of the board, run a jumper from the hot end of C14 to pin 5 of U3 (previously unused). Now you have continuous, unswitched audio.

Next, isolate the two switches of U2 (U2-B on the new "centerfold" schematic). Cut the trace between pins 9 and 10 of U2 (yes, there is a trace there, on the top of the board, between the pins). Cut the trace from U3 pin 4 to pin 9 of U2. It runs on the component side of the of the board, underneath U3, emerging at the top of U3 between pins 1 and 8, runs under C44 (right under the silk-screened "C44"), turns to the right, ducks around and under C20, and then heads north to make a left turn under the upper right corner of U2. Busy little snake.

The above step also cut your mixed (10.1MHz) transmit signal. It is possible that a switch is not needed in this line, since D7 pulls the base of Q1 to ground anyway, and the switch could be freed up for some future task (for a suggestion, see below under AGC). If you want to switch the

10.1 MHz signal, run a jumper from U3 pin 4 to U2 pin 9. Otherwise, bypass the switch by running the jumper from pin 4 of U3 to the C16 (22pf) lead closest to U2 (or to pin 8 of U2 - - there is a 3/8" trace connecting them on the bottom of the board. Obviously you'll need to cut this trace if you want to use that U2 switch for some other purpose).

Now run a jumper from U5 pin 7 (U5-A output) to U2 pin 9. Get a 4.7uf tantalum capacitor (value not critical, but note that the impedance level here is on the order of 500 ohms; For $X_c=500$ ohms, $1\mu f=300\text{Hz}$, $2\mu f=150\text{Hz}$, etc.). The (+) end of the tantalum cap goes to the U2 switch, pin 11. The other end goes to the top (nearest U5) of R21 (510 ohms), the input to the U5-B section. A tantalum cap has lower leakage than an electrolytic, and is less likely to self-discharge while the switch is open. If the cap has to be re-charged when the switch closes, it will cause some thump.

Next we need to isolate U5-A and B. To the right of U5 is R19 (4.7k). On the component side of the board there is a trace going from R19, underneath U5, to pin 7 of U5. Cut this trace.

MOVE THE SIDETONE INJECTION

Now you have the audio switch moved, but the sidetone is gone. Glen Leinweber suggested "Now you have to inject TX sidetone into U5b somewhere. The obvious place is the junction of R21, R22. For the TiCK sidetone, about 270k series resistor. For the HC240 sidetone, about 390k series resistor from U4, pin 3. ... You may have to play with these values somewhat." I have not breadboarded the sidetone injection, but this looks right. You can do away with R17, R18, C33, and C32. They were there to take the sidetone level down by 50 db (the gain of U5-A).

OTHER MEASURES

Changing the time constant will suppress all but the 4066 amplified thump. Moving the switch minimizes that thump (I cannot hear it on my breadboard lash-up at all.)

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RF GROUNDING

There are many ground loops o

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: NilsBull@aol.com
Subject: [18927] QRPs, SSTs, STVs, MTVs, XYZs, MITs & LSDs
Message-ID: <970504162325_-164899419@emout12.mail.aol.com>

Or: Dayton only few week away now you joe you!

I found out Friday last that I am being honored at work for being such a swill, well-rounded, generous, kindly old dude. I get plaque, a dental pick and some cash. With the cash, well-l-l-l-l-l. . . .

\$240 for rollers to get Dad's monster press runnin' again. All two tons of it.

\$70 for a SST kit (I love being on the cutting edge so close that I can feel the razor burns... Seein' as how it's a beta test kit deal, I've already got the fire pit dug and the axe sharpened up and the pistol loaded and the kerosene ready and the cheese otters ordered and some rabbit venom all brewed up good. As if I need another tiny 30m radio. But, hey, who doesn't?)
\$**.** for my co-workers to drink and eat junk at the local "cold cheese otters and beer-burgers" franchise. (What yuppie kids, these Gen-X frat boys.)

\$***.** to take Cindy out for dinner +c. (No, I ain't gonna 'splain the "+c.")
\$***.** for whatever. (I think there's a \$70 order from Quaker City Type Foundry around here somewhere. That and an order for some parts from Dan's. And that instruction book for making your own cheese otter spacing gadgets out of stuff that Martha Stewart screwed up and threw out without telling the rest of junque-nouveau yuppie-dom about it. And a chicken.)

Man, that SST on the Wilderness Radio web page is real inviting, if you know what I mean. Wink wink. Nudge nudge. I've got a couple projects that need to give up their shells so that another marine creature can crawl in and set up squattin' rights.

Only question: Is the schemo center spread of the NC38S in this recent QRPP (yeah, yeah, I got mine a couple days ago too...) the latest up-to-the-minute version of how it goes together stock? If so, I gotta demod a hell of a lot more than I fergot to put in, don'tcha see?

See the rest of you silly people at Dayton. I found my tickets for the banquet, so I won't have to rent a new extree-long sleeve jacket. Who knows? I might win a door jam prize. Right after I jam my thumb into this here outlet....

ZZZZZZZZZZZZZZZZZZZZzap!

Ah, thank you doctor. I'm feeling much better now.

That does it. This other guy's drivin' me nuts, whisperin' about rabbit venom all the time... on and on all day long like some kinda insect singin' in my ear I tell you! I'm callin' the pope.

73

Nils

WB8IJN +c

. . . yes it is! no it isn't! yes it is! no it isn't! yes it is! no it isn't!
yes it is! no it isn't! yes it is! no it isn't! yes it is! no it isn't! yes
it is! no it isn't! yes it is! no it isn't! yes it is! no it isn't! yes it
is! no it isn't! yes it is! no it isn't! yes it is! no it isn't! yes it is!
no it isn't! yes it is! no it isn't!
yes it is!

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997

From: msix@rt66.com

Subject: [18917] QSK QST articles

Message-ID: <Pine.SUN.3.95.970504112353.2793A-100000@mack.rt66.com>

for info on using both generic and commercial reed relays and relay sequencing, applicable to both QRP and QRO, try:
Jan 94, Jan 75, Aug 67, Nov 67.

reed relays work fine, but cannot be hot-switched on either make or break. same with mechanical relays. sequencing is a must on both make and break for long life.

switching an amp is a matter of adding an extra pole to the amp power switch to enable or disable the amp relay circuit.

have used variety of the small DPDT pcb-mounted mechanical relays at powers up to 100W and 27WPM with success. would guess they switch in about 4ms. some are in plastic cases and others are metal cases. metal are noisier but can be mounted with velcro. most handle 2amps or so.
no failures yet.

73 John W7ZFB msix@rt66.com

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>
Subject: [18887] Radio Shack Parts
Message-ID: <Pine.A41.3.95b.970503193746.91272D-1000000@homer09.u.washington.edu>

I needed the service manual for an RS speaker phone we're using in a student project. I sent an email to steve@radioshack.com (no relation, hi hi) on 4/22/97 and received this reply on 4/28/97. Ordered the manual at a Radio Shack store on 4/28/97 (about \$7.00) and received same via first class mail on 5/1/97. Pretty good service, I'd say. While I have not ordered a service manual for their HTX-202, I would them to have one available. Enjoy!

Stephen Lee, AB7HI, Tacoma, WA
slee@u.washington.edu

----- Forwarded message -----
From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Mark A. Andrews" <KE4IOF@fly.HiWAAAY.net>
Subject: [18891] TEST

Message-ID: <199705040405.XAA15272@fly.HiWAAAY.net>

TEST

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: dwink@juno.com (Daniel C Winkler)
Subject: [18934] Thump Thoughts Part 5 (long)
Message-ID: <19970504.153602.18527.2.DWink@juno.com>

THUMP THOUGHTS - PART FIVE
THE FINAL CHAPTER

I have shown that "Mr. T" comes from numerous places in the NC 38S circuit. I had hoped that I might be able to erradicate each source separately, but that now seems impossible. The best we can hope for is to hide "Mr. T". I will later describe some of the lab measurements I made in arriving at this solution. But to appease the impatient, I will proceed right to...

THE FIX

CREDIT goes to Glen Leinweber for most of this mod. I was headed that way, but he got there first.

There are four parts to the fix. Change the switching time constant at C12/R7. Move the switch to between U5-A and B. Move and adjust the sidetone injection. And finally, quiet other thump causes.

WARNING

Read these mods through, with schematic and board in hand, before you do them. Be sure you understand what is being done. A little more thinking ahead than I have done may be in order!

CHANGING THE TIME CONSTANT

Part one is easy. We need to lengthen the delay before the U2 audio switch closes, allowing reception after transmitting. The stock time constant is 0.33ms ($0.1\mu\text{f} \times 3.3\text{k}$). We need to increase it so that the 4066 doesn't switch for 5 to 10ms, long enough for the transients to die down. You can change either C7 or R7, or both. Changing R7 to 270k will do

the trick, for a time constant of 27ms. The control gate of the CD4066 (U2) has an extremely high impedance, so 270k will be fine. The 4066 switch makes its own transient, so just lengthening the time constant will still leave us with a thump. On the breadboard, I measure a 1.15volt (pk-pk) transient at the earphones, which borders on the audibly painful.

Note that the new "centerfold" schematic omits C12 and C13. I'm not sure C13/R8/D5 are needed once you have this mod done, but C12 is certainly necessary!

MOVING THE SWITCH

Part two is a little tougher. You will need a tantalum capacitor, about 4.7uf. The audio switch needs to be moved to BETWEEN U5-A and B. U5-A gives us most of the system gain, about 47 db (voltage gain of >50). U5-B gives us selectivity and a voltage gain of about 16 (24db). By moving the switch to a point later in the receiver gain, the 4066 switching thump will be minimized.

First we need to feed audio to U5-A directly. On the bottom of the board is a 3/8" trace connecting the hot end of C14 to pin 11 of U2. Cut this trace. If you haven't already changed C14 to 0.1uf, and moved its ground connection to the ground near C38, do so now. You will have to cut the wide (1/8") ground trace on the top of the board, running to the right from C14, underneath C15, then up under D7, to pin 10 of U4. I would cut it close to C14, if possible. Changing C14 is one of those "other" thump suppression mods. Then, on the bottom of the board, run a jumper from the hot end of C14 to pin 5 of U3 (previously unused). Now you have continuous, unswitched audio.

Next, isolate the two switches of U2 (U2-B on the new "centerfold" schematic). Cut the trace between pins 9 and 10 of U2 (yes, there is a trace there, on the top of the board, between the pins). Cut the trace from U3 pin 4 to pin 9 of U2. It runs on the component side of the of the board, underneath U3, emerging at the top of U3 between pins 1 and 8, runs under C44 (right under the silk-screened "C44"), turns to the right, ducks around and under C20, and then heads north to make a left turn under the upper right corner of U2. Busy little snake.

The above step also cut your mixed (10.1MHz) transmit signal. It is possible that a switch is not needed in this line, since D7 pulls the base of Q1 to ground anyway, and the

switch could be freed up for some future task (for a suggestion, see below under AGC). If you want to switch the 10.1 MHz signal, run a jumper from U3 pin 4 to U2 pin 9. Otherwise, bypass the switch by running the jumper from pin 4 of U3 to the C16 (22pf) lead closest to U2 (or to pin 8 of U2 - - there is a 3/8" trace connecting them on the bottom of the board. Obviously you'll need to cut this trace if you want to use that U2 switch for some other purpose).

Now run a jumper from U5 pin 7 (U5-A output) to U2 pin 9. Get a 4.7uf tantalum capacitor (value not critical, but note that the impedance level here is on the order of 500 ohms; For $X_c=500$ ohms, $1\mu f=300\text{Hz}$, $2\mu f=150\text{Hz}$, etc.). The (+) end of the tantalum cap goes to the U2 switch, pin 11. The other end goes to the top (nearest U5) of R21 (510 ohms), the input to the U5-B section. A tantalum cap has lower leakage than an electrolytic, and is less likely to self-discharge while the switch is open. If the cap has to be re-charged when the switch closes, it will cause some thump.

Next we need to isolate U5-A and B. To the right of U5 is R19 (4.7k). On the component side of the board there is a trace going from R19, underneath U5, to pin 7 of U5. Cut this trace.

MOVE THE SIDETONE INJECTION

Now you have the audio switch moved, but the sidetone is gone. Glen Leinweber suggested "Now you have to inject TX sidetone into U5b somewhere. The obvious place is the junction of R21, R22. For the TiCK sidetone, about 270k series resistor. For the HC240 sidetone, about 390k series resistor from U4, pin 3. ... You may have to play with these values somewhat." I have not breadboarded the sidetone injection, but this looks right. You can do away with R17, R18, C33, and C32. They were there to take the sidetone level down by 50 db (the gain of U5-A).

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RF GROUNDING

There are many ground loops on the 38S board. One "required" mod is the 0.1uF to .01uF cap from the cathode of D6 to ground, as suggested by Gale Surrency.

I believe Paul Harden wrote a nice post about improving the ground of U4, the 74HC240 RF amp (I cannot find it at the moment). You really need to do his mod to stabilize the rig. His mod went something like this:

On the bottom of the board, run a 0.1uF cap from U4 pin 20 to U4 pin 10. On the bottom of the board, run an 18 gauge jumper from the ground pad near U4 pin 10 (it has 5 plated through holes, two of which aren't used) across the board to the RF output filter ground at C501. I'm going to run TWO. I would also consider running wires from the ground at the 7808 to both the pad near pin 10 of U4 and to the ground at C501.

I get dizzy trying to imagine the current flow as the "rf" output transistors in the 74HC240 (U4) switch from +8 to ground, especially at the transitions. Let's give it a try, though. Each output of U4 has a complementary pair of FETs. Let's imagine U4's output has just switched to +8. The current flow

goes from the 7808 (and C41, which RF bypasses the +8 supply) to pin 20 of U4. Then it goes through C27 (0.1uf), and into L3, which is resonating with C28 (820pf) and the rest of the guys in the filter and the antenna. Look at the board. Where are C27 and C28? Way the heck and gone over by the left side of the board. The ground trace running along upper left corner returns the current to the 7808 ground.

When U4's outputs go to ground, current goes the other way, from out of the filter network, through C27, and into U4. But this time it flows through pin 10 of U4, and then (look at the bottom of the board) from that ground pad with 5 holes in it (near pin 10 of U4) all around BOTH edges of the board back to the filter network. Do we really want RF running past the grounds of U1, U3, and U5? Give that stuff a better (shorter) path.

AGC

One of the suggested methods of dealing with the thump was back-to-back diodes from the input to the output of U5-B (pin 7 to pin 6). I would suggest doing this mod for ear protection. At the last Northwest QRP Club meeting one fellow said he had been using nice tight earphones with a rig. He called CQ, and was answered by a mobile, running 100 watts, who just happened to be driving past only a block away! This can damage hearing. On my breadboard model, with the 4066 switch in stock position (preceeding U5-A), the back to back diodes limited thump transients to 760mv, down from 1.15v (pk-pk).

One could also adapt the very clever AGC system that Wayne Burdick incorporated into the SST to the 38S. You'd probably have to center-tap the balanced input transformer, but there is no reason it wouldn't work. Bravo, Wayne.

A BETTER CRYSTAL FILTER

While we're thinking of the SST, I might add that Wayne has given us the solution to having a better crystal filter AND having a VX0, too. I have ordered 14.318 and 4.195 crystals from Mouser; $14.318 - 4.195 = 10.123$. Might I add that there is a combination of standard crystals Wayne did not mention. For 15 meters: $13.5168 \times 2 = 27.0336$; use an IF of 5.99040 and you get 21.0432. Sorry, I could not find a combo for the Novice/Tech protion of 15.

APPENDIX - FROM MY LAB NOTES

I'm too tired to muster up much of a tutorial from my notes. But I will hit some highlights.

THE GROUND LOOP - REVISITED

In part 1 of this series I showed that the common ground path for the ground pin of U4 (74HC240) and the first audio low-pass element, C14 (.01uF) might produce a 240uV transient on the audio input at the beginning and end of transmission. This transient would cause ringing of the audio amplifier with its high voltage gain (>1000) and high Q. The situation may be worse than that.

U4 draws about 75mA more during transmit than during receive. But it draws this current as PULSES at 10 MHz, not as DC current. So the current drawn is actually pulses of 150mA or so. These pulses are not smoothed until they encounter C41, near the 7808.

There are other common paths that could cause problems. The +8 volt supply line for all the other chips has U4 "upstream" of them. The dual regulated supply would fix that.

LAB MEASUREMENTS - POWER SUPPLY LOOPS

Power supply set to deliver 500mA from (+) of C40 to (+) of 74HC240, via a 39 ohm resistor. I measure 2.9mV from (+) of C40 to (+) (pin 8) of U5, the NE5532, and about 0.3mV at U1 pin 8.

So $500/75 = 6.667$; $2.9/6.667 = 0.435\text{mV}$ change on T/R at the NE5532 (+) pin. Thanks to the excellent noise rejection of this chip, this doesn't cause any thump. The more vulnerable NE602 at U1 is not dealing with any audio, and the tiny caps (C17, and the 3pF parallel capacitance of X3) prevent it from passing any thump on.

NOISE REJECTION BY 5532

In Thump Thoughts Part 4, I stated I did not know why the noise rejection of U5 was so good. The answer dawned on me the next morning. The differential pair on the input are fed from a CONSTANT CURRENT SOURCE. In the NE602, however, which also uses a differential input configuration, the emitters are fed from a common 1.5k resistor, which does NOT supply a constant current. The NE602 is quite susceptible to

power line noise, which is why you MUST condition the supply to U3, but not necessarily that of U5. However...

NOISE FROM 7808 / U5

Glen Leinweber had a mod to reduce the 7808 noise seen by U5. He put C38 across R25 (to +8) instead of across R26 (to ground). I tried this mod, and to my surprise, the noise was noticeably worse. I can't recommend his mod. If you are concerned about noise in the audio circuit, I think the better fix would be another "virtual inductor", as I recommended for U3. The power for U5 comes from a wide trace on the top of the board at the right hand side, about in the middle. Cut that trace somewhere along that right hand border, and install another 2N2222 as you did for U3. I think you will also need an electrolytic cap of about 22uf from U5's power line to ground to help handle audio fluctuations.

THE LM358

I had mentioned that an LM358 will work as U5. Someone tried it and reported terrible distortion. I assume he didn't read the entire post, which explained that you must draw some bias current from the output of the LM358 in order to avoid cross-over distortion. I used a 220 ohm resistor from pin 7 to ground, and it worked quite well. A little noisier than the NE5532, but not enough to be bothersome (and not the 8 fold difference the specs would have you believe). It did have some added distortion at frequencies below 200 Hz. And with the extra current drawn by the biasing resistor, the LM358 turns out to be as greedy as the NE5532, so its otherwise lower supply current requirements are negated.

CHANGING BIAS ON THE NE602

Glen Leinweber had noted that during transmit U3 "changed its bias". He thought this was due to its being overdriven by the oscillator in U1. However, in poking around with the oscilloscope I discovered that what is happening is that the feedback through X3 is changed dramatically when D6 is turned on. During receive I measure 900mv (pk-pk) at pin 6 of U3, but only 460mv during transmit. I tried fooling with the feedback ratios in hopes of decreasing the U3/D6 thump. I was able to decrease it to a 10% difference, but it made no difference to the U3 generated thump.

Incidentally, the drive to U3 need not be great. The output

of U3 peaked when the input was about 100mv (pk-pk). There was very little increase in U3's output as I pushed the input up to 1 volt. I don't know what U1 is putting out (I still have a bare board), but I will be measuring it and decreasing the C11 (5pf) coupling capacitor if need be. I still think R5 (3.9k) is too low, but will reserve final judgement until I measure the swing of X1. Too much drive will spill out into the mixed (10.1MHz) output, and could make the TC2 setting more critical.

BALANCED OUTPUT FROM U3

Ah, I thought this was going to do the trick. Theory says that a balanced output from a double balanced mixer should not contain anything from the inputs. So I thought a balanced output would solve the thump. Unfortunately, the PRODUCT of the two inputs IS in the output (duh), and big transients on the oscillator of U3 end up getting multiplied by the noise at the RF input to U3, and come out as thump (duh, again).

I tried a balanced output from U3 directly to U5-A. It did reduce the thump voltage by about half (6db power). Considering that I doubled my output power, the thump was probably down by about 9db. But it wasn't enough of a decrease to be worth doing, considering the effort that would be involved in re-working the board to get balanced coupling from U3 to U5-A.

The balanced input gave more "bang for the buck". The mod is very easy (except getting ahold of an FT23-43), and very effective.

MULTIPLE CAUSES OF "MR. T"

While I was fooling around with the balanced input to U3 on the breadboard, I suddenly had a NO THUMP condition. The total peak-to-peak thump at the earphones was only 5mv. It would rise and fall from about 3 to 7mv peak in a beat with the 60 cycle noise (I was keying the breadboard at 30 Hz). I had just moved the wires from the input transformer a small amount. Further investigation revealed a "sweet spot" for connecting the input transformer, and a "just-so" placement of the wires. A quarter inch deviation would raise the thump dramatically.

I believe what I was seeing was cancellation of several transients by subtle phase shifting of the U3 transient. Earlier I had seen the first transition change when looking at first one

cause (U3) and then another (4066). Sometimes it was positive, sometimes negative. When moving the input transformer wires, I could watch the initial transient go from positive, to zero, to negative. The effect was quite dramatic, and I think it explains why some rigs have no "Mr. T". Their transients cancel sufficiently so as to produce little thump. Small variations in the delays within the NE602s, or within the 4066, and variations in the coupling resistors and capacitors that make up a complete rig, must sometimes produce such cancellation.

FET SWITCH TO BEAT THE THUMP

Many people have reported good results using the simple FET switch to mute the audio, as has been done in other rigs. The FET might be quieter than the 4066 when used in the early audio stages. If your FET switch isn't quieting the thump, you probably just need to slow its switching down with a small cap from gate to ground.

4066 SWITCHING VOLTAGES

There was some concern that the 4066 might get noisy as the switching voltage transition became slower. I put my 4066 control gate on a pot and measured the switching voltage while listening to the audio output amplified by the 5532. The switched channel opened when the input gate voltage fell to 2.70 volts. The channel closed (became an 85 ohm resistor) when the input gate voltage rose above 2.88 volts. The switch control has 0.18 volts of hysteresis, and the transitions were sharp no matter how slowly I changed the voltage on the control gate.

Now why isn't that data in the books??

Note that 2.88 volts is only 36% of 8 volts. At one time constant, the voltage on an RC network is already 63% of the final value. That is why our time constant must be much longer than the 5 to 10 ms of settling that we need.

Midnight, and me still recovering from this flu. Gotta send this out and go to bed.

One thing I haven't touched on is RF getting into the audio chain. I know that was a problem for some of the NorCal 40's. It may be a good reason to condition the power supply for U5 (including R25/R26). If I find anything when I get there, I'll report it. That will be after Dayton, though.

Happy de-thumping.

Dan Winkler N7IVR Seattle WA
<DWink@Juno.com>

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Genevieve A. Winkler" <GDWinkler@compuserve.com>
Subject: [18931] Thump Thoughts Part 5 B (long)
Message-ID: <199705041705_MC2-15E5-9AC@compuserve.com>

THUMP THOUGHTS PART FIVE B (Long)

AGC

One of the suggested methods of dealing with the thump was back-to-back diodes from the input to the output of U5-B (pin 7 to pin 6). I would suggest doing this mod for ear protection. At the last Northwest QRP Club meeting one fellow said he had been using nice tight earphones with a rig. He called CQ, and was answered by a mobile, running 100 watts, who just happened to be driving past only a block away! This can damage hearing. On my breadboard model, with the 4066 switch in stock position (preceeding U5-A), the back to back diodes limited thump transients to 760mv, down from 1.15v (pk-pk).

One could also adapt the very clever AGC system that Wayne Burdick incorporated into the SST to the 38S. You'd probably have to center-tap the balanced input transformer, but there is no reason it wouldn't work. Bravo, Wayne.

A BETTER CRYSTAL FILTER

While we're thinking of the SST, I might add that Wayne has given us the solution to having a better crystal filter AND having a VX0, too. I have ordered 14.318 and 4.195 crystals from Mouser; $14.318 - 4.195 = 10.123$. Might I add that there is a combination of standard crystals Wayne did not mention. For 15 meters: $13.5168 \times 2 = 27.0336$; use an IF of 5.99040 and you get 21.0432. Sorry, I could not find a combo for the Novice/Tech protion of 15.

APPENDIX - FROM MY LAB NOTES

I'm too tired to muster up much of a tutorial from my notes. But I will hit some highlights.

THE GROUND LOOP - REVISITED

In part 1 of this series I showed that the common ground path for the ground pin of U4 (74HC240) and the first audio low-pass element, C14 (.01uf) might produce a 240uv transient on the audio input at the beginning and end of transmission. This transient would cause ringing of the audio amplifier with its high voltage gain (>1000) and high Q. The situation may be worse than that.

U4 draws about 75ma more during transmit than during receive. But it draws this current as PULSES at 10 MHz, not as DC current. So the current drawn is actually pulses of 150ma or so. These pulses are not smoothed until they encounter C41, near the 7808.

There are other common paths that could cause problems. The +8 volt supply line for all the other chips has U4 "upstream" of them. The dual regulated supply would fix that.

LAB MEASUREMENTS - POWER SUPPLY LOOPS

Power supply set to deliver 500ma from (+) of C40 to (+) of 74HC240, via a 39 ohm resistor. I measure 2.9mv from (+) of C40 to (+) (pin 8) of U5, the NE5532, and about 0.3mv at U1 pin 8.

So $500/75 = 6.667$; $2.9/6.667 = 0.435\text{mv}$ change on T/R at the NE5532 (+) pin. Thanks to the excellent noise rejection of this chip, this doesn't cause any thump. The more vulnerable NE602 at U1 is not dealing with any audio, and the tiny caps (C17, and the 3pf parallel capacitance of X3) prevent it from passing any thump on.

NOISE REJECTION BY 5532

In Thump Thoughts Part 4, I stated I did not know why the noise rejection of U5 was so good. The answer dawned on me the next morning. The differential pair on the input are fed from a CONSTANT CURRENT SOURCE. In the NE602, however, which also uses a differential input configuration, the emitters are fed from a common 1.5k resistor, which does NOT supply a constant current. The NE602 is quite susceptible to power line noise, which is why you MUST condition the supply to U3, but not necessarily that of U5. However...

NOISE FROM 7808 / U5

Glen Leinweber had a mod to reduce the 7808 noise seen by U5. He put C38 across R25 (to +8) instead of across R26 (to ground). I tried this mod, and to my surprise, the noise was noticeably worse. I can't recommend his mod. If you are concerned about noise in the audio circuit, I think the better fix would be another "virtual inductor", as I recommended for U3. The power for U5 comes from a wide trace on the top of the board at the right hand side, about in the middle. Cut that trace somewhere along that right hand border, and install another 2N2222 as you did for U3. I think you will also need an electrolytic cap of about 22uf from U5's power line to ground to help handle audio fluctuations.

THE LM358

I had mentioned that an LM358 will work as U5. Someone tried it and reported terrible distortion. I assume he didn't read the entire post, which explained that you must draw some bias current from the output of the LM358 in order to avoid cross-over distortion. I used a 220 ohm resistor from pin 7 to ground, and it worked quite well. A little noisier than the NE5532, but not enough to be bothersome (and not the 8 fold difference the specs would have you believe). It did have some added distortion at frequencies below 200 Hz. And with the extra current drawn by the biasing resistor, the LM358 turns out to be as greedy as the NE5532, so its otherwise lower supply current requirements are negated.

CHANGING BIAS ON THE NE602

Glen Leinweber had noted that during transmit U3 "changed its bias". He thought this was due to its being overdriven by the oscillator in U1. However, in poking around with the oscilloscope I discovered that what is happening is that the feedback through X3 is changed dramatically when D6 is turned on. During receive I measure 900mv (pk-pk) at pin 6 of U3, but only 460mv during transmit. I tried fooling with the feedback ratios in hopes of decreasing the U3/D6 thump. I was able to decrease it to a 10% difference, but it made no difference to the U3 generated thump.

Incidentally, the drive to U3 need not be great. The output of U3 peaked when the input was about 100mv (pk-pk). There was very little increase in U3's output as I pushed the

input up to 1 volt. I don't know what U1 is putting out (I still have a bare board), but I will be measuring it and decreasing the C11 (5pf) coupling capacitor if need be. I still think R5 (3.9k) is too low, but will reserve final judgement until I measure the swing of X1. Too much drive will spill out into the mixed (10.1MHz) output, and could make the TC2 setting more critical.

BALANCED OUTPUT FROM U3

Ah, I thought this was going to do the trick. Theory says that a balanced output from a double balanced mixer should not contain anything from the inputs. So I thought a balanced output would solve the thump. Unfortunately, the PRODUCT of the two inputs IS in the output (duh), and big transients on the oscillator of U3 end up getting multiplied by the noise at the RF input to U3, and come out as thump (duh, again).

I tried a balanced output from U3 directly to U5-A. It did reduce the thump voltage by about half (6db power). Considering that I doubled my output power, the thump was probably down by about 9db. But it wasn't enough of a decrease to be worth doing, considering the effort that would be involved in re-working the board to get balanced coupling from U3 to U5-A.

The balanced input gave more "bang for the buck". The mod is very easy (except getting ahold of an FT23-43), and very effective.

MULTIPLE CAUSES OF "MR. T"

While I was fooling around with the balanced input to U3 on the breadboard, I suddenly had a NO THUMP condition. The total peak-to-peak thump at the earphones was only 5mv. It would rise and fall from about 3 to 7mv peak in a beat with the 60 cycle noise (I was keying the breadboard at 30 Hz). I had just moved the wires from the input transformer a small amount. Further investigation revealed a "sweet spot" for connecting the input transformer, and a "just-so" placement of the wires. A quarter inch deviation would raise the thump dramatically.

I believe what I was seeing was cancellation of several transients by subtle phase shifting of the U3 transient. Earlier I had seen the first transition change when looking at first one cause (U3) and then another (4066). Sometimes it was positive, sometimes negative. When moving the input

transformer wires, I could watch the initial transient go from positive, to zero, to negative. The effect was quite dramatic, and I think it explains why some rigs have no "Mr. T". Their transients cancel sufficiently so as to produce little thump. Small variations in the delays within the NE602s, or within the 4066, and variations in the coupling resistors and capacitors that make up a complete rig, must sometimes produce such cancellation.

FET SWITCH TO BEAT THE THUMP

Many people have reported good results using the simple FET switch to mute the audio, as has been done in other rigs. The FET might be quieter than the 4066 when used in the early audio stages. If your FET switch isn't quieting the thump, you probably just need to slow its switching down with a small cap from gate to ground.

4066 SWITCHING VOLTAGES

There was some concern that the 4066 might get noisy as the switching voltage transition became slower. I put my 4066 control gate on a pot and measured the switching voltage while listening to the audio output amplified by the 5532. The switched channel opened when the input gate voltage fell to 2.70 volts. The channel closed (became an 85 ohm resistor) when the input gate voltage rose above 2.88 volts. The switch control has 0.18 volts of hysteresis, and the transitions were sharp no matter how slowly I changed the voltage on the control gate.

Now why isn't that data in the books??

Note that 2.88 volts is only 36% of 8 volts. At one time constant, the voltage on an RC network is already 63% of the final value. That is why our time constant must be much longer than the 5 to 10 ms of settling that we need.

Midnight, and me still recovering from this flu. Gotta send this out and go to bed.

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Happy de-thumping.

Dan Winkler N7IVR Seattle WA

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Genevieve A. Winkler" <GDWinkler@CompuServe.COM>
Subject: [18932] Thump Thoughts Part Five A (long)
Message-ID: <199705041708_MC2-15E5-9EB@compuserve.com>

THUMP THOUGHTS - PART FIVE
THE FINAL CHAPTER

I have shown that "Mr. T" comes from numerous places in the NC 38S circuit. I had hoped that I might be able to erradicate each source separately, but that now seems impossible. The best we can hope for is to hide "Mr. T". I will later describe some of the lab measurements I made in arriving at this solution. But to appease the impatient, I will proceed right to...

THE FIX

CREDIT goes to Glen Leinweber for most of this mod. I was headed that way, but he got there first.

There are four parts to the fix. Change the switching time constant at C12/R7. Move the switch to between U5-A and B. Move and adjust the sidetone injection. And finally, quiet other thump causes.

WARNING

Read these mods through, with schematic and board in hand, before you do them. Be sure you understand what is being done. A little more thinking ahead than I have done may be in order!

CHANGING THE TIME CONSTANT

Part one is easy. We need to lengthen the delay before the U2 audio switch closes, allowing reception after transmitting. The stock time constant is 0.33ms ($0.1\mu\text{f} \times 3.3\text{k}$). We need to increase it so that the 4066 doesn't switch for 5 to 10ms, long enough for the transients to die down. You can change either C7 or R7, or both. Changing R7 to 270k will do the trick, for a time constant of 27ms. The control gate of the

CD4066 (U2) has an extremely high impedance, so 270k will be fine. The 4066 switch makes its own transient, so just lengthening the time constant will still leave us with a thump. On the breadboard, I measure a 1.15volt (pk-pk) transient at the earphones, which borders on the audibly painful.

Note that the new "centerfold" schematic omits C12 and C13. I'm not sure C13/R8/D5 are needed once you have this mod done, but C12 is certainly necessary!

MOVING THE SWITCH

Part two is a little tougher. You will need a tantalum capacitor, about 4.7uf. The audio switch needs to be moved to BETWEEN U5-A and B. U5-A gives us most of the system gain, about 47 db (voltage gain of >50). U5-B gives us selectivity and a voltage gain of about 16 (24db). By moving the switch to a point later in the receiver gain, the 4066 switching thump will be minimized.

First we need to feed audio to U5-A directly. On the bottom of the board is a 3/8" trace connecting the hot end of C14 to pin 11 of U2. Cut this trace. If you haven't already changed C14 to 0.1uf, and moved its ground connection to the ground near C38, do so now. You will have to cut the wide (1/8") ground trace on the top of the board, running to the right from C14, underneath C15, then up under D7, to pin 10 of U4. I would cut it close to C14, if possible. Changing C14 is one of those "other" thump suppression mods. Then, on the bottom of the board, run a jumper from the hot end of C14 to pin 5 of U3 (previously unused). Now you have continuous, unswitched audio.

Next, isolate the two switches of U2 (U2-B on the new "centerfold" schematic). Cut the trace between pins 9 and 10 of U2 (yes, there is a trace there, on the top of the board, between the pins). Cut the trace from U3 pin 4 to pin 9 of U2. It runs on the component side of the of the board, underneath U3, emerging at the top of U3 between pins 1 and 8, runs under C44 (right under the silk-screened "C44"), turns to the right, ducks around and under C20, and then heads north to make a left turn under the upper right corner of U2. Busy little snake.

The above step also cut your mixed (10.1MHz) transmit signal. It is possible that a switch is not needed in this line, since D7 pulls the base of Q1 to ground anyway, and the switch could be freed up for some future task (for a

suggestion, see below under AGC). If you want to switch the 10.1 MHz signal, run a jumper from U3 pin 4 to U2 pin 9. Otherwise, bypass the switch by running the jumper from pin 4 of U3 to the C16 (22pf) lead closest to U2 (or to pin 8 of U2 - - there is a 3/8" trace connecting them on the bottom of the board. Obviously you'll need to cut this trace if you want to use that U2 switch for some other purpose).

Now run a jumper from U5 pin 7 (U5-A output) to U2 pin 9. Get a 4.7uf tantalum capacitor (value not critical, but note that the impedance level here is on the order of 500 ohms; For $X_c=500$ ohms, $1\mu f=300\text{Hz}$, $2\mu f=150\text{Hz}$, etc.). The (+) end of the tantalum cap goes to the U2 switch, pin 11. The other end goes to the top (nearest U5) of R21 (510 ohms), the input to the U5-B section. A tantalum cap has lower leakage than an electrolytic, and is less likely to self-discharge while the switch is open. If the cap has to be re-charged when the switch closes, it will cause some thump.

Next we need to isolate U5-A and B. To the right of U5 is R19 (4.7k). On the component side of the board there is a trace going from R19, underneath U5, to pin 7 of U5. Cut this trace.

MOVE THE SIDETONE INJECTION

Now you have the audio switch moved, but the sidetone is gone. Glen Leinweber suggested "Now you have to inject TX sidetone into U5b somewhere. The obvious place is the junction of R21, R22. For the TiCK sidetone, about 270k series resistor. For the HC240 sidetone, about 390k series resistor from U4, pin 3. ... You may have to play with these values somewhat." I have not breadboarded the sidetone injection, but this looks right. You can do away with R17, R18, C33, and C32. They were there to take the sidetone level down by 50 db (the gain of U5-A).

OTHER MEASURES

Changing the time constant will suppress all but the 4066 amplified thump. Moving the switch minimizes that thump (I cannot hear it on my breadboard lash-up at all.)

How big a delay you will need before allowing audio in on the receive cycle may depend to some extent on how much thump you have in the preceding stages of the receiver. I initially suggested 47ms ($R7=470k$), a very long time constant to cover the worst cases. However, 27ms gives an actual

switch turn-on delay of about 6ms. With other suppression measures, you may get by with a time constant of 16ms or less. I start getting thump with 160k, but have none at 220k (22ms), even with most of my thump-suppression measures removed. Glen says he has no thump with only 47k, but he has made other extensive modifications.

U3 POWER FILTERING

In Thump Thoughts Part Two, I focused on U3. If you haven't done it, decouple the power supply to U3. It is a cause of more thump, but even more important, U3 amplifies power line (+8) noise. Filtering the supply to U3 makes the receiver MUCH quieter. A 220 ohm resistor and a 10uf cap will do, but a transistor "virtual inductor" is better (see Thump Thoughts Part Two). U3 gets its power via a "comb" of traces going between the pins (1 through 5) of U2, on the bottom of the board. These 4 thin traces are easily cut, isolating the power to U3. A 2N2222 is connected, collector to +8, emitter to pin 1 of U3, and the base is fed with a 10k resistor to +8, and smoothed with a 1 to 10uf tantalum cap to ground.

POWERING U4 SEPARATELY

Another alternative is to isolate the power supply to U4, the hungry (75ma during transmit) 74HC240, from the rest of the rig's circuitry. It gets its power at pin 20, which would be easy to isolate from the rest of the +8 volt supply. Look at the bottom of the board. It could be fed from its own 7808 or a home brew regulator. I should mention that Mark Gaponoff tried this, and noticed no added thump suppression (he had not done the above switch mod, but was using an FET switch as described in other mods), but I neglected to ask about improvement in the noise floor.

U3 BALANCED INPUT

I noted in Thump Thoughts Part Two that a balanced input to U3 greatly helped to suppress the thump. Mark Gaponoff has added this to a working 38S, and is very pleased with the results. The mod is as follows: You need a small torroid transformer. I recommend a FT23-43, with a 6 turn primary and a 12 turn secondary. You need at least 22uH in that secondary winding (stray capacitance "tunes" it to close to 12MHz). Remove R6 and C17. Pull up the side of C18 that goes to U3. Run a 270k (value not critical, just hundreds of k) resistor from the hole just vacated to the C18 lead you freed. This is to provide some positive bias to the primary winding,

so that the 4066 switch won't be trying to pass signals at ground level.

The primary (6 turns) of your transformer goes from where the top end of C17 (closest to U2) was, to the free end of C18. The secondary (12 turns) goes to the two holes for C17 and C18 that are close (1/16") together. Yeah, I know, you just filled that C18 hole with the 270k resistor lead. So wrap the secondary wire around the resistor lead. You ARE reading ahead before you do these mods, aren't you?

Warning: a 61-mix has a μ only one sixth that of the 43-mix. If you substitute a 61 mix torroid, you will need an FT37-61, and you will need a 10 turn primary and a 20 turn secondary. With an FT23-61 you'd need 15:30 turns, and things get a little crowded. A powdered metal (2 or 6 mix) torroid won't work at all; it just won't have enough inductance. (Actually Mark proved it does work- by capacitive coupling. He got MUCH better results with a ferrite torroid, though.) You could, of course, tune a powdered iron torroid with a variable cap...

RF GROUNDING

There are many ground loops on the 38S board. One "required" mod is the 0.1uF to .01uF cap from the cathode of D6 to ground, as suggested by Gale Surrency.

I believe Paul Harden wrote a nice post about improving the ground of U4, the 74HC240 RF amp (I cannot find it at the moment). You really need to do his mod to stabilize the rig. His mod went something like this:

On the bottom of the board, run a 0.1uF cap from U4 pin 20 to U4 pin 10. On the bottom of the board, run an 18 gauge jumper from the ground pad near U4 pin 10 (it has 5 plated through holes, two of which aren't used) across the board to the RF output filter ground at C501. I'm going to run TWO. I would also consider running wires from the ground at the 7808 to both the pad near pin 10 of U4 and to the ground at C501.

I get dizzy trying to imagine the current flow as the "rf" output transistors in the 74HC240 (U4) switch from +8 to ground, especially at the transitions. Let's give it a try, though. Each output of U4 has a complementary pair of FETs. Let's imagine U4's output has just switched to +8. The current flow goes from the 7808 (and C41, which RF bypasses the +8

supply) to pin 20 of U4. Then it goes through C27 (0.1uf), and into L3, which is resonating with C28 (820pf) and the rest of the guys in the filter and the antenna. Look at the board. Where are C27 and C28? Way the heck and gone over by the left side of the board. The ground trace running along upper left corner returns the current to the 7808 ground.

When U4's outputs go to ground, current goes the other way, from out of the filter network, through C27, and into U4. But this time it flows through pin 10 of U4, and then (look at the bottom of the board) from that ground pad with 5 holes in it (near pin 10 of U4) all around BOTH edges of the board back to the filter network. Do we really want RF running past the grounds of U1, U3, and U5? Give that stuff a better (shorter) path.

(End of part A of Part Five)

Dan Winkler N7IVR Seattle WA

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Al McRorie" <amcrorie@execulink.com>
Subject: [18896] WA3NNA/B on 3557
Message-ID: <199705040602.CAA10992@execulink.com>

just copied the beacon here in London, Ontario, Canada at the 1 w and 100 mw levels, copied the codewords transmitted, could only hear the occasional letter @ 10 mw, nothing at any lower power levels, not solid copy @ 1 w or 100 mw but quite strong at times, what you might expect from the transmit power levels being used,

Al ve3gam amcrorie@execulink.com

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Keith Hamilton" <khamilton@cisnet.com>
Subject: [18925] Wilderness Radio at Dayton???
Message-ID: <199705042027.QAA29501@smtp.cisnet.com>

Can anyone tell me if Wilderness Radio will be represented at Dayton? If so will they have equipment there to sell or will they be taking orders? I have decided to build a Sierra!

My father (Jim Hamilton - AC4AS) and myself (Keith Hamilton - W8GX) will be staying at Days Inn South but not arriving until Friday. Hope to meet quite

a few people we see here on the list in the hospitality suite!

72!

Keith Hamilton - W8GX
khamilton@cisnet.com

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: timcook@erinet.com
Subject: [18904] WTB: Ten Tec Tuner
Message-ID: <336C9A17.4E29@erinet.com>

Looking for a 228/254 (possibly a 227) Ten Tec tuner. Please email if you have one for sale. Would buy outright, or would trade a exc condition JPS NF-60 with wall power supply for one.

Thanks
Tim
NZ8J

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Ronald J. Polityka" <wb3aal@talon.net>
Subject: [18901] x
Message-ID: <199705041321.JAA14590@pelican.talon.net>

NA Contest Program & QRP contest.

Hello fellow QRPers. I am new to the QRP-L and I hope I am doing this the right way.

Could anyone help me with the proper way to set up the Contest Template for a QRP contest. I have the version of NA 9.27
I am doing something wrong, probably something easy that I am not seeing.

73 & Good Dxing
Ron de WB3AAL

wb3aal@talon.net

QRP # 5318 OWL's Radio Club
G-QRP # 3031 PA QSO Party 1996 Small Club Award
10-10 # 13173

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Bill Kelsey - N8ET - Kanga US" <kanga@mail.bright.net>
Subject: [18880] Re: 160m single bander?
Message-ID: <199705032332.TAA06771@mail.bright.net>

The LCK xcvr by Kanga is available as a 160 kit, in addtion to 80 -
20 meters, single band.

The KK7B kits that I do will also go on 160.

73
73 - Bill - N8ET
Kanga US
kanga@mail.bright.net
<http://qrp.cc.nd.edu/kanga/>
419-423-4604

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: x5m7v7wl@coastalnet.com
Subject: [18920] Re: 160m single bander?
Message-ID: <1.5.4.16.19970504014635.39e72096@abaco.coastalnet.com>

Hi Gang

I have an NN1G SW-160 rig and i would recommend it to anyone. It works
just as well as the 40-40/30-40 and all of Daves other rigs.

73 Roy WA4DOU

>
>

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: [18892] Re: gel cell batteries
Message-ID: <19970504040530.AAB28530@LOCALNAME>

At 02:28 AM 5/4/97 +0000, you wrote:

>good evening to all,

>mitch here.

>i have been reading thru qrp-1 about gel cell batteries where do you get

>small gel cell's??? i have seen marine gel cell's but they are
>monsters!! is that what everyone talking about??
>thanks,
>n4jbw
>qrp-l #1094,fist #3206 et al
>
>

Best batteries I've ever used are the Gates 2.5 and 5 ampere hour
sealed lead-acid batteries! WAY BETTER than NiCads! You can charge them
and come back in 6 months and they still have a nice charge. I have two
blocks of 6 cells I use.
Great batteries. The 2.5 A/H ones are the size of "D" cells. Two flat
blade contacts
on one end that take the "fast on" connectors. I have had LOUSY results
from gel-cells.

73,

E. V. Sandy Blaize, W5TVW

"Boat Anchors collected, restored, repaired, traded and used!"

417 Ridgewood Drive,

Metairie, LA., 70001

ebjr@worldnet.att.net

Looking for: 860 tubes, WL-460 tubes

Butternut HF2V antenna, G-R test gear.....*

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997

From: Kory Hamzeh <kory@avatar.com>

Subject: [18893] Re: gel cell batteries

Message-ID: <Pine.BSI.3.91.970503210954.4302F-1000000@avatar.avatar.com>

Aren't gel cells sealed lead acid batteries?

On Sun, 4 May 1997, Sandy W5TVW wrote:

> At 02:28 AM 5/4/97 +0000, you wrote:
> >good evening to all,
> >mitch here.
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> >thanks,
> >n4jbw
> >qrp-l #1094,fist #3206 et al
> >
> >

> Best batteries I've ever used are the Gates 2.5 and 5 ampere hour
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> and come back in 6 months and they still have a nice charge. I have two
> blocks of 6 cells I use.
> Great batteries. The 2.5 A/H ones are the size of "D" cells. Two flat
> blade contacts
> on one end that take the "fast on" connectors. I have had LOUSY results
> from gel-cells.
> 73,
> E. V. Sandy Blaize, W5TVW
> "Boat Anchors collected, restored, repaired, traded and used!"
> 417 Ridgewood Drive,
> Metairie, LA., 70001
> ebjr@worldnet.att.net
> **Looking for: 860 tubes, WL-460 tubes**
> **Butternut HF2V antenna, G-R test gear.....***
>
>
>

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: k8cv@juno.com (Walt D Amos)
Subject: [18898] Re: gel cell batteries
Message-ID: <19970504.093305.10006.5.k8cv@juno.com>

Look in the adds in the back of qst.....They are alphabetical. Look
for BATTERY. There E-mail address is aj547@lafn.org..... I got a 7 am
gel cell from them for \$18 bucks + \$5 or so for postage. It was brand new
and is the same battery as in the \$67 dollar big black power station. You
will need a charger and you can build one or go to Kmart or an auto parts
store and get a motorcycle battery charger. Small 1 amp charger will do
the job but / and if you are really into tree hugging you can get a 180ma
, 1.8 watts, solar panel from Damark for \$30 bucks. 1-800-729-9000. Yeah,
I know most of there stuff is junk and they will send you catalogs for
ever..... :-)) They even have a 450 ma one , 5 watts, for \$70
bucks

Walt K8CV

We're just a small sub-group of an eclectic corner of a dying hobby.....

On Sat, 03 May 1997 22:28:50 -0400 NO OTHER THAN <mitch96@idt.net>
writes:
>good evening to all,
>mitch here.

>i have been reading thru qrp-l about gel cell batteries where do you
>get
>small gel cell's??? i have seen marine gel cell's but they are
>monsters!! is that what everyone talking about??
>thanks,
>n4jbw
>qrp-l #1094,fist #3206 et al
>
>

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: Bernie Doehner <bad@uhf.wireless.net>
Subject: [18900] Re: gel cell batteries
Message-ID: <Pine.BSF.3.95.970504091721.11443A-100000@uhf.wdc.net>

> Best batteries I've ever used are the Gates 2.5 and 5 ampere hour
> sealed lead-acid batteries! WAY BETTER than NiCads! You can charge them
[...]

For the clueless like myself... Where did you get buy them from?

Thanks.

Bernie nu1s

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: k7sz@juno.com (Richard H. Arland)
Subject: [18906] Re: gel cell batteries
Message-ID: <19970504.144456.6959.0.k7sz@juno.com>

On Sun, 4 May 1997 09:03:44 GMT k8cv@juno.com (Walt D Amos) writes:
> I got a 7 am gel cell from them for \$18 bucks + \$5 or so for postage.
It was
>brand new and is the same battery as in the \$67 dollar big black power
>station.

Speaking of the "big black power staton": anybody see the article by
Gordo West in the latest issue of CQ VHF about how he bypassed the
internal charger and ran the input to the gell cell directly to an
outside, non-current limited source, to recharge the battery while using
the power station to power a rig?

Last time I looked, gell cells were supposed to be current controlled on recharge. Gordo says that a completely discharged gell cell will draw about 3 amps from the external 12 V source, a partially discharged gell cell will draw about 2 amps and the thing will "float" a charged battery at 1 amp!

Maybe Gordo has stock in a battery company that makes gell cells. My next question: doesn't anyone at CQ magazine have the technical expertise to double check some of these articles that go into print for gross errors? Gordo's little "modification" has a great potential to cause a bunch of no-code techs to replace a lot of batteries at the very least.

73 rich K7SZ

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: [18911] Re: gel cell batteries
Message-ID: <19970504162213.AAA28820@LOCALNAME>

At 04:10 AM 5/4/97 +0000, you wrote:

>
>Aren't gel cells sealed lead acid batteries?
>

Yes, indeed they are, but they use a "gelled electrolyte". The Gates cells are constructed similar to a NiCad battery internally using "wound" plates. The electrolyte being in saturated separators. They are constructed so that the 'gassing' is at a minimum. I have found them much easier to deal with as to charging rates, and they are much more reliable than the "Gell cells". There is another "sealed lead-acid" battery that looks like a gell-cell type, but they are constructed like auto batteries that are "sealed" (maintenance free type).

73,
E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: 860 tubes, WL-460 tubes
Butternut HF2V antenna, G-R test gear.....*

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: k8cv@juno.com (Walt D Amos)
Subject: [18912] Re: gel cell batteries
Message-ID: <19970504.163600.9158.3.k8cv@juno.com>

Of the battery guy? May QST page 172.....

Battery 12v YUASA sealed lead acid (gel-cell) . Brand new w / warranty.
1996/7 date code: 7AH \$18 call for other models. AVENTRADE. 818-286-0118
or aj547@lafn.org

Give me a shout if this isn't what you wanted.

Walt K8CV

We're just a small sub-group of an eclectic corner of a dying hobby.....

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: Michael <MichaelN@cycat.com>
Subject: [18914] Re: gel cell batteries
Message-ID: <336CC139.6406@cycat.com>

> Speaking of the "big black power staton": anybody see the article by
> Gordo West in the latest issue of CQ VHF about how he bypassed the
> internal charger and ran the input to the gell cell directly to an
> outside, non-current limited source, to recharge the battery while using
> the power station to power a rig?
>
> Last time I looked, gell cells were supposed to be current controlled on
> recharge. Gordo says that a completely discharged gell cell will draw
> about 3 amps from the external 12 V source, a partially discharged gell
> cell will draw about 2 amps and the thing will "float" a charged battery
> at 1 amp!

Real gell cells like constant voltage charging with the current limited
to prevent damage. The cells I have list right on the side reccomended
voltage and current limits for both standby and cyclic use.

Unlimited voltage and current charging is -very- bad news for nearly any
battery.

Some batteries need to have the current limited, gell cells.
Some batteries can take almost any current you can give them but need
the voltage limited, AGM (absorbed glass mat) batteries especially.

Over current will distroy gell cells.
Over voltage will destroy AGM cells.

michael N6CHV

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: [18926] Re: gel cell batteries
Message-ID: <19970504200712.AAB26897@LOCALNAME>

At 04:37 PM 5/4/97 +0000, you wrote:

>OK, Sandy,

>

>Where does one buy Gates sealed lead-acid batteries???

>

>72/73

>

>Bob Parks

>K6AEC (Las Vegas)

>

Allied Electronics has them, and I think Newark does as well.
Hallmark in Dallas probably has 'em. They go by the Name Hawker-Gates
"Cyclon" batteries now I think.

73,

E. V. Sandy Blaize, W5TVW

"Boat Anchors collected, restored, repaired, traded and used!"

417 Ridgewood Drive,

Metairie, LA., 70001

ebjr@worldnet.att.net

Looking for: 860 tubes, WL-460 tubes

Butternut HF2V antenna, G-R test gear.....*

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: k7sz@juno.com (Richard H. Arland)
Subject: [18905] Re: How Efficient is a Hellically Wound Vertical?
Message-ID: <19970504.144456.6959.1.k7sz@juno.com>

On Sat, 3 May 1997 21:21:30 -0400 "Kevin F. Glynn" <kfglynn@prodigy.net>
writes:

>Hi gang,

>Now, how efficient is it really?

Efficiency is directly related to the size of the counterpoise or "ground radials" that you use. I personally think that most (about 98%) of the vertical antennas I have used are nothing more than vertically polarized, omni directional, air cooled dummy loads.

If you are planning to work DX, a vertical, using at least 4 radials per band (minimum) would work. If you want an antenna to use in QRP-to-the-field type contests, then a dipole would be a better choice owing to the higher angle of radiation....a dipole mounted near to the ground would work even better, offering a near vertical take off angle. This would put the RF into nearby locations rather than skipping over them with the low take off angle offered by a properly installed vertical.

>I'd like to get raised radials.....

Actually, if you elevate the feedpoint of the vertical antenna, the feedpoint impedance drops dramatically. To keep feedpoint impedance high, use the antenna in a ground mounted configuration with lots of radials. The idea that the radials have to be cut exactly to 1/4 wavelength is misleading. In talks with Don Newcomb, of Butternutt Electronics, this was discussed. His recommendation was that you need to get a lot of radials out on the ground, their length can be as short as 15 feet for 40 meters....you just need a lot of them.

> A ham in a local club keeps telling me... you're an amateur, experiment.

He's right....get out there and have some fun. Record your findings...use "good science" to evaluate your antenna(s). It doesn't take a lot of test gear...just know what you are seeing and evaluate it properly. Don't get all hyped up when you work a few Europeans and then decide that this antenna is the "greatest DX-getter of all time". Evaluation is a slow process....based upon multiple attempts and accurately recorded data. Remember: antenna manufacturers seldom give an accurate portrayal of their product...instead they rely on antenna range measurements, inflated gain figures, gracious product reviews in ham magazines and a lot of user "hype" to sell their products. The real proof is in the on-air use of the antenna and how it works for you....maybe you have good Karma with a certain antenna....hey, what ever works.

73 rich K7SZ

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: Doug <doug@sunrise.alpinet.net>
Subject: [18884] Re: Keyer vs Bug

Message-ID: <336BF68E.5F90@alpinet.net>

Hi again Monte....thanks for the comments. I've only been licensed since '62, but it's been a truly enjoyable 35 years and I look forward to a bunch more.

I came into the hobby driven by this crazy desire to build radio stuff and use it on the air. My Grandad gave me an old WU sounder and key when I was a kid, and the thing fascinated me. I put both on the bottom of an old cigar box made of Cedar, and proceeded to teach myself the Code....except I was busily learning the Landline Morse. So, much to my dismay, I looked in an old ARRL handbook ('50 I think) and found I'd messed up bigtime. I got after the International Code, learned it and took my novice...all in about a month.

At that point, I figured I'd never see or hear the Original Morse again, and quickly tried to replace it on the air with the International Code. But, at 18 yrs old, I went to work for the Phone Co. in Seattle. One day I walked by the Telegraph testboard and one of the old timers sent "Hi Doug" on the pony sounder. I responded "Hi" and kept on walking. Shortly thereafter, the Chief Testboardman came around the corner and making a long story short, I was soon broken in on the board as vacation relief for the old guys, all of whom had many weeks of time off due to their seniority. So....I guess I learned it all backwards, but it came in handy anyhow.

I also miss the different sounds of the HB stuff...I still listen around on the Glowbug and Boatanchor freqs for fun...brings back nice memories. Perhaps I shouldn't admit it but I've got an ART-13 about ready to go back on the air after a 30 some year layoff....should be fun. My first rig was a 6V6 oscillator, and boy did that one have a sound of it's own! I used an ARC5 receiver for my favorite band...40 meters, and I was in Ether Heaven.

I can understand your dexterity problems....I've got our old friend Arthritis in the lower joint of my thumb. The Doc wants to put a pin through it to fix it in place. I told him to take a hike until I couldn't stand the pain any more...wouldn't want to mess up my fist. I worked long and hard to develop my relationship with the Bug...don't want to take any chances.

I think we all need to remember the patience that was shown us when we first started. It was great to have one of the "old guys" slow down when asked...no remarks, just a nice attitude and friendly demeanor. I do miss that in today's hustle and bustle on the bands. Morse is relaxing to me...good for the spirit, and I enjoy meeting those I've not made friends of yet. That, in great part is the essence of the hobby. The Morse is a thread that ties us all together in this pursuit,

I hope it continues to hold tight.

73 and take care....hope to meet you on the air sometime

Doug, K7YD
Livingsgton, MT

Monte Stark wrote:

>
> Hi Doug, and the gang,
>
> Boy, did you do a great job of saying what was on my mind!
>
> Let me add just a bit.....
>
> I started in 1953. No electronic keyers, just hand pumps, bugs
> and cottiees!! (Or swipers as they are also called)
>
> When you tuned across the band, you could tell who many of the
> stations were by the way they sounded. Most of the rigs were
> HB and each one had it's own sound.....some a clear ring like
> a bell while others had a little whoooosh to them. There were
> the drifters, both up and down, the cherpers and buzzers!
>
> There were good fists, poor fists and also those who kept slipping
> into American Moris during the middle of the word and those who
> you really had to work for!
>
> But it was like walking into a room full of people. You just knew
> who was there by their sound. You didn't have to wait till they
> gave a call. You remembered that this fellow was an old RR hand
> that used to send CW for the RR.
>
> That other fellow just down the band is a doctor who enjoys sending
> out hand made QSL cards!
>
> The art was more in copying than in sending. The same is still true
> today only we are so very spoiled.
>
> Most CW today is not hand made. Some sort of computer chip does
> all the timing for us. And we even manage to argue about just how
> that should be done. How about the debate about Farnsworth? No one
> can say that's good CW! It violates the rules of timing. It's just
> that some find it easier to copy at slow speeds.
>
> So it's all kinda relative.
>

> I used to get upset with poor fists. But two things have happened
> to wake me up....
>
> 1) I called a CQ at about 35 wpm one day and a fellow called me
> back at about 15/20 wpm and poorly sent at that! (We do all know
> that you should reply to someone at the same speed they are calling
> don't we??).
>
> I said to myself, "So much for a little up beat qsoing".....and
> went back to him at his speed. (Remember, this is the correct
> way to do it.....or should I say polite way!).
>
> When I turned it over to him, he said to go ahead and send as
> fast as I wanted because he could copy fine up to around 50 but
> that he had had a stroke and could not send much any more!
>
> That QSO lasted over 2 hours and was one that I'm glad I didn't
> miss!
>
> and
>
> 2) My right thumb has started giving me trouble and there doesn't
> seem to be anything the Doc's can do about it. I can not send along
> at 40 wpm any more. And at times 30 is making it hurt.
>
> So I might even be one of the OF's that winds up sending poor cw
> and it'll sure get my goat if so many are too high and mighty to
> work a little extra to talk to me!!
>
> To me the real art of cw is copying. Anyone can send one way or
> another. I've always wondered how well the fellow sent that had
> to blow through the straw to work the keyer!
>
> OK, soap box up. Thanks for the time, cul,
>
> 73, Ron, SOWP 5545M,
>
>KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
>ku7y@sage.dri.edu.....Washoe Lake, Nevada.....
>QRP-L #17...ARS #49...NorCal #330.....NRA LIFE.....

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: Doug <doug@sunrise.alpinet.net>
Subject: [18888] Re: Keyer vs Bug
Message-ID: <336BFE23.7108@alpinet.net>

Hi Marty and the Crew...thanks for taking time to express your feelings on the subject...I agree with some of your points. My intent sure wasn't to chastise you or anyone else in particular, but just to toss in a bit of what I've learned from experience.

I think one problem we see today is, as you state, a lack of true support from the Ham Radio Community toward both the new ticket holders and also anyone else who is moving around in the Hobby, trying new gear and emissions, learning, making mistakes and feeling frustrated by lack of progress. I guess you could say the closeness of each of us to the other has faded, leaving questions unanswered and feelings of being essentially alone. This however is not unique to our Hobby, but is also a change that's become prevalent in Society as a whole.

For me, there was constant, steady prodding and pulling (sometimes by the ear!) from the OT's, willing help from those who really knew just why my little rig had harmonics(THAT is another story!)...and how to fix it. And if I needed pieces and parts, or was stuck looking for a particular need, it came available from one of the old guys..."long term loan" they called it. This is the Hobby as I learned it...and I DO try to carry on (as I was told to do) in the same way.

There IS a heart out there in the fine hobby of Amateur Radio...it still beats loudly. We just need to work a bit at being who we've learned to be...a contributing part of the whole. If we can hold onto those precepts, we've got a grand future ahead.

Keep up the good work...pound the Brass, rattle the Bug, create Morse with a spoon screwed to the table (yes, I've seen one of those). It all allows us to keep in touch and that's what we do best.

73 and 72 to all...

Doug, K7YD

Marty Watt wrote:

>
> Monte, Doug, et al.
>
> On Fri, 2 May 1997 22:14:14 -0700 (PDT), Monte Stark
> <ku7y@sage.dri.edu> wrote:
>
> >Hi Doug, and the gang,
> >
> >Boy, did you do a great job of saying what was on my mind!
>
> >The art was more in copying than in sending. The same is still true

> >today only we are so very spoiled.
> >
> >Most CW today is not hand made. Some sort of computer chip does
> >all the timing for us. And we even manage to argue about just how
> >that should be done. How about the debate about Farnsworth? No one
> >can say that's good CW! It violates the rules of timing. It's just
> >that some find it easier to copy at slow speeds.
> >
> >So it's all kinda relative.
> >
> This I will happily admit. Honestly, upon reflection, I think I'm
> more upset at *my* inability to copy than *their* inability (for
> whatever reason) to send.
> >
> >I used to get upset with poor fists. But two things have happened
> >to wake me up....
> >
> >1) I called a CQ at about 35 wpm one day and a fellow called me
> >back at about 15/20 wpm and poorly sent at that! (We do all know
> >that you should reply to someone at the same speed they are calling
> >don't we??).
> >
> I do, and do. At least as much as I can -- I'm no speed demon as it
> is. Comfortable at 15 or so, I suppose, more comfortable at 10!
> >
> >I said to myself, "So much for a little up beat qsoing".....and
> >went back to him at his speed. (Remember, this is the correct
> >way to do it.....or should I say polite way!).
> >
> >When I turned it over to him, he said to go ahead and send as
> >fast as I wanted because he could copy fine up to around 50 but
> >that he had had a stroke and could not send much any more!
> >
> Fine. I'm basically addressing those kW stations that refuse to
> admit their limitations, and continue attempting 35 when they can't
> realistically send over 20.
> >
> I'm more than happy to slow down, if it makes the code copyable.
> >
> Since I've already dug myself into a hole of my own creation,
> anything I say will sound patronizing.
> >
> But the signals I heard I couldn't decipher *anything*. Some was a
> bug problem -- the guy with the dits at 60wpm and the dahs at 2wpm.
> That's not a limitation -- that's just plain silly in my book.
> >
> And the gentleperson who used a straight key and ran everything
> together? For all I know, this person was indeed disabled in some

> way, and yes, I probably missed a wonderful QSO and lifelong friend.
> But for heaven's sake -- would it kill to slow down a bit? It would
> do absolute wonders for the code copyability.
>
> My point is not that I can only tolerate "perfect,
> computer-generated CW". My point is that most every piece of
> equipment we utilize has a proper and improper use and setup. And
> I'm not convinced a 1:50 weighting on a bug is proper. If the dahs
> will only come out at 5 wpm, great. Send 5 wpm, and let's chat!
> But, please, using a bug, slow those dits down too!
>
> As for straight keys, I monitored a discussion somewhere (perhaps
> here, but I think more likely a newsgroup somewhere) in which people
> were touting their sending speed with a straight key. Speed is
> wonderful, as long as quality doesn't diminish. I can send at 150
> wpm, on a straight key, but noone will understand a single
> character, nor could a computer program decipher it.
>
> The primary objective of this game, it seems to me, is
> communication. And it behooves all of us, young and old, fast and
> slow, beginner or expert, to focus our attention on facilitating
> communication rather than personal style, particularly where the
> personal style is to the detriment of communication.
>
> My remarks are not intended to slam those well-intentioned people
> with difficulties that I can't even imagine. But it raises the
> question -- and this is the heart of it, for me -- should another
> operator be offended when I ask them to QRS and space the CW more,
> or adjust their weighting if possible, etc.? I am, honestly, afraid
> to do so, and don't know how to do so without offending the other
> person, who may in fact be much more CW-proficient than myself.
> Given the "pride" taken in various "personal styles", I don't want
> to affront anyone, so I don't make the QSO. It's sad, for both of
> us.
>
> As to beginners -- if someone admits to me to being a beginner, or
> trying to increase speed, I'm happy to help (as my eagerness to stay
> in the novice subband on 40 surely indicates). It further helps me!
> But, I don't want to offend them either -- and in a world without
> elmers, many people (occasionally myself included!) do get offended
> when we're doing something wrong and get corrected in a public
> forum.
>
> More than likely, the poor code is a result of little or no honest
> elmer support. And where I sit, it's not my place (and indeed is
> rude!) to constructively criticize the CW of others on the air.
> Kinda like the guy who, on his own, gets a license, upgrades to
> General, and his first HF transmission of "Breaker, Breaker, anybody

> copy me?" gets met with "Get of my frequency, you dipwad!" (From a
> report of a new ham -- true story!).
>
> I don't know what the solution is -- perhaps one of the more elder
> statesmen of the group can help enlighten me (and other newcomers to
> the hobby) about proper CW etiquette for correcting another on the
> air.
>
> If any exists ...
>
> >That QSO lasted over 2 hours and was one that I'm glad I didn't
> >miss!
> >
> >and
> >
> >2) My right thumb has started giving me trouble and there doesn't
> >seem to be anything the Doc's can do about it. I can not send along
> >at 40 wpm any more. And at times 30 is making it hurt.
> >
> >So I might even be one of the OF's that winds up sending poor cw
> >and it'll sure get my goat if so many are too high and mighty to
> >work a little extra to talk to me!!
> >
> >To me the real art of cw is copying. Anyone can send one way or
> >another. I've always wondered how well the fellow sent that had
> >to blow through the straw to work the keyer!
> >
> >OK, soap box up. Thanks for the time, cul,
> >
> >73, Ron, SOWP 5545M,
> >
> >.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
> >....ku7y@sage.dri.edu.....Washoe Lake, Nevada....
> >....QRP-L #17...ARS #49...NorCal #330.....NRA LIFE.....
> >
> >
>
> 72 es 73 de
> Marty, KM7W
>
> -----
> Jackson, Tennessee e-mail: mdwatt@usit.net
> http://www.public.usit.net/mdwatt
> "The Curmudgeon's Corner"
> NorCal #2031 - ARCI #7514 - QRP-L #953 - AK/QRP #098 - Grid EM55oq
> ~~~~~

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: Doug <doug@sunrise.alpinet.net>
Subject: [18890] Re: Keyer vs Bug
Message-ID: <336C020D.4E31@alpinet.net>

Hi Dan...thanks for the note. I have some strong sentiments when it comes to Bugs...but I'll try to be objective...sorta.

I'd recommend a Vibroplex, new or used. One of Mitch's Originals is probably the best on the market. But, if you can find a good used one that hasn't been dropped or otherwise abused, that'd be great too. Take time and check into the Vibroplex site on the Web and see just what is offered there. Also, they have an easy to understand, clear method for tuning up your Bug. Write or call the folks there and I think they'll drop you a copy. Many of the problems I've seen were caused by missadjusted keys, spacing way too wide and too much throw in the paddle. The Vibroplex folks are great to talk to and work with...I'm sure they can help you find any parts or info you might need. Nope...I don't have any connection with them...just a happy customer.

In addition, there are real old time bugs out there...some true collector's items. If you are fortunate enough to pick up one of those, don't leave it on the shelf...use it. Each one is a piece of Morse history, having a story to tell. Put it on the air.

Spend time practicing with written copy...a newspaper or phone book. Send lots of numbers and punctuation, working for smooth rhythmic sending, with the proper number of dots and dashes. Timing and rhythm are the keys...and it does take time.

Then....get it on the air!

Best of luck Dan...see ya with your Bug.

73

Doug, K7YD

DANIEL DOBSON wrote:

>

> Hi Doug,

>

> I enjoyed your story about the code. I have been licensed for a couple of
> short years and have really enjoyed using the code for recreation (fun!).

>

> My question to you is this: I currently use a Bencher iambic with a keyer and
> send at about 12-15 wpm. I have never used a bug, but like the distinctive

> rhythm and personal "fist" that I hear during QSO's.
>
> Can you recommend one to start with? I am a 40-something Advanced op.
>
> Thanks!
> Dan KG9KF
>

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Carol N. Wright" <cnw@hiwaay.net>
Subject: [18889] Re: Need Info on Grid Dip Meter
Message-ID: <Pine.OSF.3.94.970503220909.2152B-1000000@fly.HiWAAAY.net>

Hey Brian and Gang,
The James millen Grid Dip Meter model no. 90651 schematics and manual is available for \$9 from W7FG. Go to <http://www.w7fg.com>
Go to m in the index and scan down thru the pages, it will be on about page 10 or 11 or 12. Try this, I just saw it there. Best 72/73 DE Matt, AE4JM

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: Brian Chesire <BCChesire@worldnet.att.net>
Subject: [18895] Re: Need Info on Grid Dip Meter
Message-ID: <336C15C9.395B@worldnet.att.net>

What a good group of people. Have the manual comming. Thanks to all respondents.

PS I can take out channels 2 thru 5 from 50 feet with the Millen, no sweat. The boob tube never had a chance! Hi Hi.

Brian WA5PP0

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: "Al Hunter" <ahunter@inland.net>
Subject: [18903] Re: Need Info on Grid Dip Meter
Message-ID: <199705041407.HAA11489@ns1.inland.net>

> I obtained a real jewel this morning. A James Millen, model 90651, grid

>dip meter. It's the old vacuum tube version.

snip snip

>the physical
dimensions for the 140 to 300 Mhz coil.

Hi Brian.....I've had my 90651 for too long to remember. However, it is no longer in its pristine state. I modified it to solid state.....got rid of the tube and the power cord. Using an RCA 40673 dual gate mosfet, powered by an internal 9v. battery. The 140-300 mHz coil is a hairpin turn of 1/4" wide copper sheet stock. If your forthcoming manual does not include the specs for that coil, please let me know and I'll give you the info.
72/73.....A1.....AA6S0

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>
Subject: [18883] Re: Not QRP:HTX202 help?
Message-ID: <Pine.A41.3.95b.970503190225.91272B-100000@homer09.u.washington.edu>

Go to your local Radio Shack store. Tell them :) they have a list of service manuals....not operator manuals, but real life fix it service manuals. You want to order the service manual for the HTX202. That is, if you plan to fix it yourself. You can pay for it right there at the store and within a week you'll receive your service manual via first class mail. The parts are listed there with explanation and I do believe you can order from Radio Shack the individual repair parts. If not then ask for your money back on the service manual.

Beyond that you could send it in to a Radio Shack repair facility for repair. Enjoy!

Stephen Lee, AB7HI, Tacoma, WA
slee@u.washington.edu

On Sat, 3 May 1997, Carol N. Wright wrote:

> Hey Gang,
> I've seemed to of burned up my HTX202. We had a major rash of funnel
>

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: ka7you@juno.com
Subject: [18924] Re: Proposal: VHF/UHF Field Day
Message-ID: <19970504.120734.7871.3.KA7YOU@juno.com>

Rick,

The January, June, and September VHF contests are very similar. What would you propose that is a lot different from those events? The VHF contests are well advertised and the participation is good, but with the exception of the occasional 6M opening, they become quite regional in nature.

I haven't forgotten about MS and EME contacts, but they are fairly rare, relative to the number of terrestrial ones. Activity nights have been tried, and are successful in some areas, but there needs to be a certain critical mass to keep them going. In many parts of the country, there just isn't enough activity to keep the interest up.

I find it fairly easy to gear up for the occasional contest, but very difficult to spend time on a regular basis for an activity night (not even considering the fact that I work swing-shift, that is a personal problem here :>)

I am open to suggestions.

Rod Johnson KA7YOU from CN97AK near Issaquah, Wa. 160M thru 1296 MHz (3456MHz still in the wings)
NWQRP#120 ARCI#7251 QRP-L#844
Ask me about producing Three-Wheeled Golf Carts by the hundred--as a hobby??

On Sun, 04 May 1997 08:31:39 -0400 rgraham@netrax.net (Graham-Richard) writes:

>I would propose a separate VHF/UHF Field Day, with virtually the same
>multipliers as is in regular field day. After all, Field day exercises
>are

>supposed to be preparing us for emergencies... are we as VHF/UHF
>enthusiasts exempt from this status?

>I submit that we could be more effective for emergency communications
>than

>the HF'ers because of our "trained ears". We thrive for pulling out
>the

>weak stations. We don't have bickerings, etc. like the HF'ers do.

>Don't get me wrong, I enjoy HF also, but those bands are becoming more
>and

>more un-policed, tempers flare, some forget that they were once

>Novices,

>Techs, etc. too and "brow beat" the less experienced.

>

>As to the when, and how.. I leave that up to you (CQ staff, this could

>be a
>biggie for you! :)
>
>Comments (public and private) encouraged.
>
>73 DE KA3ESA, Rick (FM19pw)
>
>-----
>Submissions: vhf@w6yx.stanford.edu
>Subscription/removal requests: vhf-request@w6yx.stanford.edu
>Human list administrator: vhf-approval@w6yx.stanford.edu
>

From owner-qrp-l@Lehigh.EDU Sun May 4 18:03:48 1997
From: Joe Everhart <n2cx@voicenet.com>
Subject: [18881] Re: Rainbow Build-II Update
Message-ID: <199705032356.TAA28762@mail3.voicenet.com>

>Date: Sat, 03 May 1997 19:49:03
>To: N0TU@webaccess.net
>From: Joe Everhart <n2cx@voicenet.com>
>Subject: Re: Rainbow Build-II Update
>
>At 01:06 PM 5/3/97 -0600, you wrote, in part:

>>Tks Joe for the info!! I was thinking today during my walk in the park
>>that with just a simple jumper between the tuning cap and the toriod
>>coil the LC circuit could be made to work on higher freqs like 20m by
>>shorting out some of the turnsso what if you put a tapping setup on
>>the other end of the toriod like you do to find the 50 ohm match above
>>ground? I going to try this..I'll let you know how it plays Steve/N0TU
>>--

>>-----
>>"Just doing it" - Havin'a blast buildin'& usin' QRP gear that is...
>>n0tu/hw8/49er/SW40/38s/solar/backpack-mobile... QRP-L # 911
>>My homepage - <http://www.webaccess.net/~S&P> ARS# 206 CQC# 394
>>

>Steve,

>
>Shorting out turns on a toroid is usually not a good idea because it kills
>the Q of the coil. You can get awya with it on an air-wound coil because
>it has lwoer coupling between turns, but on a toroid, the ferromagnetic core
>gives almost perfect coupling. The result is that a shorted turn loads
>down the rest of the coil very heavily. It's like short-circuiting a
>traqnsformer winding.

>
>The Rainbow manual has a section on using the Rainbow on other bands. The
>way I recommend is putting another toroid coil in parallel with the first.
>If it is equal to the toroid already in the Rainbow, the inductance is
>halved so that it will tune higher infrequency. The taps on the original
>coil do the proper impedance transformation as expected.
>
>Good luck and ...
>
>

72/73,

Joe E., N2CX

from Southern New Jersey, y'all

work: jeverhart@cayman.vf.mmc.com
home: n2cx@voicenet.com

From owner-qrp-1@Lehigh.EDU Sun May 4 18:03:48 1997
From: RSPSC1 RS Store POS Mail user <RSPSC1@Tandy.com>
Subject: RE: Spkr_Phone Schematic

Schematics and technical information is available in the Service Manual.
You should be able to obtain a service manual from Tandy National Parts.
The address and phone number for Tandy National Parts Warehouse is:

National Parts
600 Tandy Technology Center
Fort Worth, Texas 76102
(800) 442-2425
FAX use: 800-821-1959

THANK YOU,

RADIO SHACK COMPUTER SUPPORT SERVICES
CC/cd